NEBRASKA WHEAT VARIETIES AND QUALITY, 1963 CROP

Release - Immediate

OMAHA AND WARRIOR WHEAT VARIETIES SHOW SHARP GAINS

The 1963 survey of the Nebraska wheat varieties made by the State-Federal Division of Agricultural Statistics reveals sharp gains made by Omaha and Warrior varieties. Bison suffered the most severe loss in popularity followed by Cheyenne, Pawnee and Nebred. Ottawa also showed a marked increase with only a limited gain by Rodco. Spring wheat varieties have nearly faded from the scene while some of the older varieties such as Turkey Red and Nebraska 60 are still being planted in some localities.

Pawnee was the leading variety and planted on 20.1 percent of the State's wheat acreage. This was down 4.8 points from a year earlier. Cheyenne, the second ranking variety with 15.3 percent of the total, slipped 6.6 points from the previous year. Bison with 14.3 percent just barely held third place over the fast increasing Warrior variety that moved from 4.0 percent in 1962 to 13.9 percent in 1963.

Cheyenne wheat managed to hold first place in the northwest, but was losing rapidly to Warrior. In the southwest, Bison variety still held first place, with Cheyenne the second ranking variety and Warrior moving into third place. The south central area shows a wide distribution of many varieties, but here Pawnee holds the first place as it does in the east central and southeastern areas. Ottawa, a relatively newcomer, is moving up rapidly in the southeast and east central districts. Rodco is gaining in these areas.

STRONG GLUTEN VARIETIES REPRESENT OVER 50 PERCENT OF THE TOTAL

Nebraska farmers show preference for the strong gluten varieties of wheat that are considered excellent for flour used by commercial bakeries. These varieties make up over 50 percent of the total State wheat acreage. The leading varieties in this class are Cheyenne, Warrior, Nebred, Bison and Ponca.

Mellow gluten wheats make up the bulk of the remaining acreage. The principal varieties in this group include Pawnee, Wichita, Ottawa, Omaha and Triumph. These varieties have desirable characteristics for family flour and blending. Objectionable varieties and weak gluten wheats have nearly disappeared from the Nebraska State acreage.

NEB	RASKA	WHEAT AC	REAGE_E	LANTED_I	B <u>Y VAR</u> I	<u>ETIES</u>	BY_CROP	REPORTI	NG DIST.	19 <u>6</u> 3_	CROP
Districts:	<u>Pawnce</u>	: <u>:Chey</u> c <u>n</u> nc	: :Bison:				: 1 <u>:0ttawa:</u> d A c r		: : <u>Triump</u> n	.O <u>the</u> r:	Λ11 V <u>arieties</u>
Northwest	5	332	26	306	u	119		27		6	821
N. Central	1	1	6		3	4		~ ~ ~		1.	16
Northeast	15		1		12	2	3				33
Central	43	2	55	16	40	32	3			3	194
E. Central	222		40		119	19	75	1	37	2,3	536
Southwest	12	· 167	187	131		94	~ ~ ~	38		15	644
S. Central	143	8	108	11	63	35	12	34		36	450
Southeast	229		54		103	9	117	23	44	62	641
_ <u>_ State</u>	_6 <u>7</u> 0	<u>510</u> _	_477_	<u>464</u> _	_3 <u>4</u> 0_	_3 <u>1</u> 4_	210_	<u> 123 </u>	81	146 _	

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U. S. Department of Agriculture

STATE-FEDERAL DIVISION OF AGRICULTURAL STATISTICS
211 P. O. Bldg., Box 1911, Lincoln, Nebr. 68501, 432-1960, 435,3273, Ext. 546 and 547

NEFRASKA--WHEAT VARIETIES ESTIMATED FERCENTAGES PLANTED TO EACH VARIETY FOR SELECTED YEARS

: Variety :	1939	: 1944	: : 1949	: : 1954 : .	: 1959 :	1961	1962	: : 1963
•	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Pawnee		.3	33.4	35.7	31.0	26.9	24.9	20.1
Cheyenne	14.8	22.7	: 25.2	27.5	28.9 -	, 27.3	21.9	15.3
Bison					7.1	20.İ	24.9	14.3
Warrior						.2	4.0	13.9
Oma ha						. 2	1.7	10.2
Nebred	.2	15.3	26.1	26.6	25.1	17.0	11.9	9.4
Ottawa							.3	6.3
Wichita			.2	1.5	1.4	2.0	3.8	3.7
Triumph			.1	.3	.6	1.6	2.7	2.6
Ponca			·,	. 2	2.4	2.2	2.1	1.6
Rodco						.1	· .3	1.1
Turkey Red	58.0	43.4	7.8	2.7	1.0	.4	.4	.4
Kiowa					.2	.3	.3	.1
Comanche			. 2	.7	.4	.3	.2	
Nebr. 60	10.1	4.8	. 7	.5	.2	.1	.1	
Tenmarq	.2	2.8	1.4	.5	. 2	.1	.1	
Other and Unknown	16.7	10.7	4.9	3.8	1.5	1.2	.4	1.0

1963 WHEAT CROP UP 18 PERCENT FROM 1962 FRODUCTION

The 1963 wheat crop of 63,490,000 bushels was 18 percent above the poor 1962 crop of 53,820,000 bushels, but 25 percent below the 1957-61 average of 84,814,000 bushels. The crop was reduced by winterkill, hail, freezing temperatures during the flowering stage, mosaic and other disease conditions. The 1963 crop was recorded as one of the earliest of record and harvest was much faster than usual. The late freeze in May caught early maturing varieties in the flowering stage and seriously reduced the yields.

The yield of the varieties showed great variation within localities. Yields per harvested acre developed from the survey represent an overall average by districts and for the State. They do not offer a valid comparison of yields by varieties such as is obtained by growing the varieties under similar or control conditions of experimental plots. They do, however, reflect the harvested yields obtained under the varied conditions that were experienced throughout the State.

Of the predominant varieties, Ottawa had the highest yield, followed by Omaha and Warrior. Cheyenne, generally yielding average or better, had the lowest yield. Wichita, with the highest yield in 1962 was near the bottom for the 1963 crop. Pawnee with 22.1 bushels per acre was above the State average but suffered some loss from freeze damage in the central areas.

NEBRASKA--WHEAT YIELDS PER HARVESTED ACRE BY VARIETIES, 1963

		المحافظة ومرسوانها			ROP REPORTI	NG DISTR.	ICIS			
Variety	:	North-: West:	North : Central:		: :: :: :: :: :: :: :: :: :: :: :: :: :		: South : : West :	South : Central:	South : East :	State
- variety	•	71:50			Fushels Pe					
Pawnee		23.1	8.0	21.0	19.0	25.0	17.3	19.0	22.0	22.1
Cheyenne		13.9	21.0		-25.0		20.3	16.5		16.1
Bison		18.5	15.0	17.5	17.0	2۲ -	21.3	20.0	20.0	20.1
Warrior		22,8		20 m) v8	24.0		23.5	24.5		23.1
Omaha			10.1	19.5	19.8	28.0		25.0	27.0	25.8
Nebred		20.0	16.5	19.0	19.5	20.5	19.0	18.0	16.0	19.3
Ottawa				17.2	23.0	30.0		15.0	28.5	29.2
Wichita		14.0				9.6	19.5	18.0	21.3	18.1
Triumph						21.5			22.5	22.0
Other/1		21.5	8.0		24.0	20.5	19.0	24.0	23.0	22.3
A11		18.5	13.5	19.8	19.4	25.5	20.9	20.3	24.3	21.5

/l Includes All Other and Unknown Varieties

NEBRASKA -- TEST WEIGHTS BY VARIETIES 1963 WHEAT CROP

			BY CR	OP REPORT	ING DISTRI	ICTS	····		
Variety	: North- : West	: North : Central	:North- : East		: East : : Central:	: South- : West :	South: Central:	South- : East :	State
				Pou	nds Per Bu	shel			
Pawnee	60.5	57.3	59.8	59.7	59.6	59.9	59.5	59.3	59.5
Chevenne	58.4	59.0	59.0	60.2	58.2	60.1	59.1	62.0	59.1
Bison	60.1	55.3	59.0	59.4	59 .6	60.7	60.0	59.3	60.1
Warrior	60.0	56.5	Mr ===	60.1	50.0	60.5	60.0		60.1
0maha	-,	57.1	59.9	60.0	60.1	59.5	60.2	59.9	60.0
Nebred	59.5	58.6	58.0	.59.5	59.5	60.5	59.3	58.4	59.7
Ottawa			59.3	61.6	60.4	61.0	60.5	60.0	60.2
Wichita	60.7				59.3	61.2	59.3	60.4	60.5
Triumph		and date 15	62.0	·	59.7	59.1	61.0	59.6	59.6
Other/1	59.5	57.0	62.0	59.0	59.4	60.4	59.8	59.4	59.6
A11	59.5	57.1	59.7	59.7	59.9	60.5	59.8	59.6	59.8

/l Includes All Other and Unknown Varieties

WHEAT QUALITY OF THE 1963 CROP HIGHER THAN IN 1962

Comparable statistics on the quality of the Nebraska wheat crop is limited to two years of data. Test weight, protein and sedimentation tests on the 1963 crop was on a much higher level than the tests made on the 1962 crop.

The average test weight of 59.8 pounds for the 1963 crop was close to the standard weight of 60 pounds per bushel and was almost 4 pounds above the light weight of 55.9 pounds shown for the previous year's crop. Test weight showed slight variations over the State. By varieties, Cheyenne had the lowest weight, but this variety is produced in an area that had a rather serious drought condition during the filling period. Wichita, with 60.5 pounds had the highest weight of the varieties. Pawnee, with a weight of 59.5 pounds, was reduced slightly by frost damage and in some areas kernel development was forced by

dry, warm weather.
Protein content, as reported by wheat growers at 12.3 percent, is up from the 11.1 percent reported for the 1962 crop. All varieties had a higher protein content than in the previous year with Triumph showing 13.2 percent for the highest and Warrior with 12.0 for the lowest. Tests made by the ASC Service show a higher protein content than that reported on the grower's survey, but this can be attributed to the better quality grain that was placed under loan.

Sedimentation value of 49 was on a much higher level than the 37 reported a year earlier. The sedimentation value was higher for all varieties and followed to a certain extent the protein content of the grain. Wichita, with 42, had the lowest sedimentation value, while Bison with 53 was the highest.

Comparable data for Colorado and Kansas have been included in this report to furnish State comparisons for wheat, produced in the Central Plains. In Kansas the protein content and sedimentation value for the 1963 crop ranked above that for the 1962 production. In Colorado the sedimentation value of 47.5 was slightly more than 4 points higher than the value for a year earlier. Protein content was also on a higher level than in the previous

NEBRASKA: WHEAT QUALITY 1962 AND 1963 CROPS

	: Report	ed Test			. 11.	:	157.8.15	· · · · · · · · · · · · · · · · · · ·
1 600	: Weig	ght	:	Rep	orted	:	Sedim	entation
Variety ,	: per bi	per bu. 2/			Content 2/	: ·	Val	úe 3/
	: 1962	1963	;	1962	: 1963	:.	1962	: 1963
	ra Pour	nds		Pe	rcent		1,	
Pawnee ·	56.8	59.5		10.6	12.7		30	45
Cheyenne ·	54.9	59.1		10.5	12.4		32	47
Bison	55.8	60.1		11.8	12.6		47	53
Varrior .	56.1	60.1		10.9	12.0		· 34	44
)ma ha	1/	60.0		i/	12.7		1/	52
Nebred	53.3	59.7		11.1	12.2		32	51
)ttawa .	1/	60.2	,	1/	. 12.8		. 1/	·'': 48
Vichita .	59 ⁻ 2	60.5	4	11,9	12.4		38	42
Criumph -	1/	59.5	•	1/	13.2		1/	46
Other .	$\overline{\underline{1}}/\cdots$	59.6	1	$\overline{\underline{1}}$ /	12.4	•	$\overline{\underline{1}}/$	49
A11	55.9	59.8		`11.1	12.3		37	49

0.5303 mak mir SQAP.

WHEAT QUALITY 1/

State -	\$ 5) 7	Test Weight		Prof	ein Content	;:	Sec	limentation Value	
	1962		63 :	1962	: 1963	<u></u>	1962	; 1963	 ,
antaja	••	Pounds	`	I	Percent		:		
Colorado	61.1	L 60	.4	12.2	12.9		43:3	47.5	r,
OU CHIAN	•	• •					<i>:</i>	• •	, 1
Kansas,	61.1	<u>. 61</u>	.9 ''	11.7	12.1		49.0	√ 50.0	, 3

^{1/} Colorado date obtained from samples of wheat collected at county elevators. Kansas data were obtained from carlot shipments to terminal markets.

Not available.
 As reported by wheat growers on annual survey.
 As determined by samples of farm stored wheat in 1962 and samples of farm and commercial stored in 1963, tested by the Agricultural Stabilization and Conservation Service. Sedimentation classified by varieties where identified. Minor mixed or unknown varieties included in State total.

NEBRASKA--SEDIMENTATION TESTS BY VARIETIES 1963 WHEAT CROP BY CROP REPORTING DISTRICTS

	:North- :	North :	North- :		: East	: South-	: South :	South-	:
Variety	: West :	Central:	East :	Central:	: Central	: West	: Central:	East	: State
				SEDIM	ENTATION	VALUE			
Pawnee		44	53	49	46	44	44	42	45
Cheyenne	51			54		41	47		47
Bison	45	61		54	58	50	56	51	53
Warrior	48	49		46	48	38	47		44
Omaha		55	53	55	53		55	48	52
Nebred	56 .	59	58	51	52	40	50	42	51
Ottawa			54	58 ·	49		57	47	48
Wichita	33				42	41	47	39	42
Triumph					47	47		43	46
Other /1	50	48	52	50	49	43	51	. 49	. 49
A11	52	53	53	52	49	44	52	46	'' 4 9

 $\overline{1}$ Includes All Other and Unknown Varieties

SEDIMENTATION VALUE

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The sedimentation test is designed to indicate the quantity and quality of wheat protein for bread-baking purposes. Sedimentation values are related to loaf volume and thus to baking strength. The test is based on two known facts: (1) that gluten protein absorbs water and swells when treated with lactic acid under certain conditions, and (2) that the amount of water absorbed, and consequently, the extent of the swelling depends upon the "quality" of the gluten. Wheat with sedimentation values of 60 and over usually contains a high protein content and has superior baking quality and strength. Values of 40 to 59 usually indicate good protein content and good quality gluten, whereas values of 39 or below indicate low protein quality or quantity.

Sedimentation value was used as a basis for determining loan value premiums to farmers in connection with the government's wheat price support program for the first time in 1962. Premiums and discounts on both protein and sedimentation were applied to the 1963 wheat crop. The change made joint use of sedimentation and protein tests in computing premiums and discounts. The combination of the two tests more nearly reflects the wheat's commercial bread baking quality. Sedimentation discounts ranged from one to nine cents per bushel and premiums from one to twelve cents per bushel. Protein was discounted up to four cents and premiums from one to twelve cents per bushel were established.

Gluten protein as reflected in the sedimentation value of wheat is basically determined by (1) variety and (2) the conditions under which the crop is grown. Environmental conditions during the growing period are believed to have a greater influence than variety on sedimentation values of wheat. Cultural practices, soil fertility, heat, drought, disease, the amount and timeliness of moisture, and other factors can affect protein quantity or quality and thereby influence the sedimentation value.

In view of this information, it is evident that sedimentation values of a particular wheat variety in relation to others will vary from year to year, from field to field, and from one area of the state to another, depending upon how it responds to the prevailing conditions which modify protein quantity and quality. Differences in relative maturity of the wheat varieties, for example, may determine the effect of an adverse environmental factor on protein quality and thus the sedimentation value.

Growers are cautioned against the use of sedimentation value obtained during any one year as a reliable criteria in the selection of a variety for planting. Higher yield of an adapted variety usually will more than offset any expected premium that might be gained from an unadapted variety. Any of the Nebraska recommended varieties can produce good sedimentation values if growing conditions are such that an adequate amount of protein is produced.

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1 k - 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1	N		rein contentiof wheat," Les, 1963/Crép /1	and the second second	
COUNTY	Number:of		COUNTY	Number of	: Average
AND:		Protein	AND	Samples	Protein
DISTRICT: :	Tested	Content	: DISTRICT :	Tested `	: Content
,	,,			1.0	
Banner	23	12.32	Butler	618	13.27
Box Butte	231	12.52	y Cass	81	12.67
Cheyenne	97 63	12.47	Colfax	453	13.34
Dawes	62	12.99	Dodge	170	12.85
Deuel Garden	.,62	11.67	Douglas Hamilton	223	12.26
Kimball	, - 7 . 9	14.47	Lancaster	340	13.24 " 13.00
Morrill	7 5	12.61	Merrick	42	13.38
Scotts Bluff.	75 1.	14.84	Nance	68	12.43
Sheridan	328	12.84	Platte	264	13.68
Sioux	4	10.50	Polk	64	13.30
NORTHWEST	892	12.62	Sarpy	`6	11.30
			Saunders	85	12.76
Arthur	,	=	Seward	412	13.35
Blaine		, ,	Washington	3	13.38
Boyd		**	York	355	13.07
Brown	15	13.07	EAST	3,184	13,22
Cherry	. 5	- 14.06		- 0 -	, , , , , ,
Garfield			Chase	. 191	13.20
Grant	6 :	14.35	Dundy	66 167	12.22
Hooker		14.33	Frontier	164 103	11.86 11.71
Keya Paha			Hitchcock	176	12.38
Logan	2 .	11.70	Keith	84	11.20
Loup			Lincoln	141	11.50
McPherson			Perkins	260	12.05
Rock			Red Willow	180	11.99
Thomas			SOUTHWEST	1,365	12.09
Wheeler			in the second of		
NORTH	28 :	13.42	Adams	631	12.72
Antelope	1	12 50	Franklin	. 129	12.23
Boone	1 8	13.50 14.11	Furnas	63 128	12.42
Burt	;	12.64	Gosper Harlan	248	12.36 12.43
Cedar			Kearney	342	12.78
Cuming	2	12.05	Phelps	84	12.65
Dakota			Webster	84	12.34
Dixon	~		SOUTH	1,709	12.59
Knox	,		k, ·		•
Madison	. 3	13.67	Clay	226	12.81
Pierce	2 ·	15.28	Fillmore	250	12.76
Stanton	6	14.55	Gage	266	12.74
Thurston Wayne	- 		Jefferson	348	12.95
NORTHEAST	34	13.56	Johnson Nemaha	37 61	12.25 12.76
Table	J -	13.30	Nuckolls	. 246	12.70
Buffalo	165	12.95	Otoe	48	12.72
Custer	. 89	12.31	Otoe	. 14	12.37
Dawson	77	12.16	Richardson	6	12.27
Greeley	42	13.36	Saline.,,,,,	. 426	12.80
Hall Andreas	89	12.67	Thayer,	373	12.26
Howard	242	12.51	SOUTHEAST	2,301	12.68
Sherman	48	12.96		<u> </u>	
Valley CENTRAL	18 770	13.00 12.65		10.000	. 10 75
CENTRAL		12.03	NEBRASKA,	,10,283 _j	12.75

^{/1} As determined from wheat tested by the Agricultural Stabilization and Conservation Service. 300,0

NEBRASKA: SEDIMENTATION VALUE OF WHEAT, By Counties, /1

COUNTY AND	Numi Sar Tes	per of mples sted	Aver Sedimen Val	itátion	COUNTY AND	Sa	ber of mples sted	Avera Sediment Valu	ation
DISTRICT	1962	1963	1962	1963	DISTRICT	1962	1963	1962	196
					,				
Banner	29	23	30	48	Butler	37	618	39	L
Sox Butte	151	231	28	53	Cass	14	81	26	Z
heyenne	117	97	34	43	Colfax	4	453	29	
awes	31	62	32	53	Dodge	30	170	22	4
euel	404	· 62	38	37	Douglas.	# P 1		18	
arden	56	ارا سازيتي ر	34], <u>1</u> 5.3	Hamilton	30	~~~223	""" "37	
imball	16	9	34	60	Lancaster	59-	340	31 5	
lorrill	73	75	: 30	46	Merrick	6	42	47	
cotts Bluff.	4,		26	69	Nance	14	~ ************************************	34	
heridan	118	328	33	57	Platte.,	14	ე, 264	30	
ioux				40	Polk,,,,	26	64	31	
ORTHWEST	699.	,	32 '	52	Saron		. 6		
	٠, و و ق		• •)	Sarpy	20	85	24`	
,	1.		, 1		Saunders,				
rthur					Seward	95	412	33 .	
laine					Washington	1	3	40	`. ·
oyd		·			York	32	ეი. 35 5	36	
rown		15		48	EAST	383	3,184	32	1
herry	3	5	26	61		_		17 (14)	
arfield			-		Chase	223	3.191	44.	
rant					Dundy	83	66	46	
olt	2	6	38	64	Frontier	77	- 1 6 4	40; ^	• -
ooker		·			Hayes	197	103	44.377	÷ .
eya Paha	3		26	- ~ ~	Hitchcock	223	176	43	
ogan,,,,,	5	. 2	50	39	Keith	175	· v., 84	32	
oup					Lincoln	161	141	38	
CPherson					Perkins	370	260	33	3 (
lock					Red Willow	163	180		. ,
homas					SOUTHWEST		1,365	39 %	
heeler		,			,	_,	37.1		
ORTH	13	. 28	37	53	Adams	38	631	38	·, ·
·	1.5	·, -U	1.31	_	Franklin	27	129	_	
ntelope		1	·	62	Turnec	107	63	35	
		· 8		58	Furnas		128		
oone		•		- 44	Gosper	61		43	
urt		12			Harlan,,,.	130	248	37	' '
edar.,			±		Kearney	38	342	33 ' '	•
uming		2		47	Phelps	87	84	33 ; ;	
akota		, 		~	Webster	32	84	47	4
ixon,,,,,	,				SOUTH	520	1,709	37 1.	
nox		~ 	,					1.5	
adison	1	3	18	56	Clay	42	226		
iérce		. 2		69	Fillmore	122	250	39	9
tanton		6	'	60	Gage	134	266	36 15	35
hurston					Jefferson	206	,348	39 '	.20 7
ayne	~				Johnson	27	37	40	4
ORTHEAST	1	34	18.	53	Nemaha	23	.61	47 '	*50
· ·		•	,		Nuckolls	48	246	46 ;	٠٠,٠ ١
iffalo	6	. 165	32	52	Otoe	23	48	37	٠
ister,,,	28	. 89	28 -	45	Pawnee	17	14	44 :	· .
awson	19	77	44	50	Richardson,	10	. 6	46	4
réëley		42		56	Saline	322	426		
all		89	54		Thayer	56	37.3	47 .	
oward.	4	242	31 .	54	SOUTHEAST		2,301	39	
herman	1	.48	22	· 53	nooturatiii.	1,000	4, JUL		·
herman	. 4	18		· 53	······································				,
alleyENTRAL	. 4 20				MEDDAORA	1. 203	10 202	27	د _ک ن د
DIVITANTE COLOROS COLOR	63	770	34	• • 52	NEBRASKA	4,JOI	1∪,∠0⊅,	37 "	70.7

[/]IF As determined from wheat tested by the Agricultural Stabilization and Conservation Service

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